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ABSTRACT

The 1988 National Education Longitudinal Study (NELS:88) focuses on a sample of students enrolled in the eighth grade during the spring of 1988. Building on its predecessors (the National Longitudinal Study of the High School Class of 1972 and High School and Beyond), the study is designed to provide trend data about the critical transitions experienced by young people as they develop, attend school, and embark on careers. Sample projections estimated that 26,000 students will be selected at random from a nationally representative sample of approximately 1,000 schools. This discussion identifies the purpose and objectives of the school survey component of the NELS:88, describes the survey administration procedures, and presents the results of the field test of the NELS:88 school survey undertaken in the spring of 1987. Recommendations emerging from these analyses address the areas of pre-survey activities, data collection activities, and instrumentation. (TJH)

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THE NATIONAL EDUCATION LONGITUDINAL STUDY OF 1988 SCHOOL SURVEY*

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THE NELS:88 SCHOOL SURVEY

Introduction

The National Education Longitudinal Study of 1988 (NELS:88) has become the third in a series of longitudinal studies sponsored by the Center for Education Statistics of the U.S. Department of Education. Building upon its predecessor studies, the National Longitudinal Study of the High School Class of 1972 (NLS-72) and High School and Beyond (HS&B), NELS:88 is designed to provide trend data about the critical transitions experienced by young people, as they develop, attend school, and embark on careers.

NELS:88 focuses on a sample of students who are enrolled in the eighth grade in the spring of 1988. Sample projections estimate that approximately 26,000 eighth grade students will be selected at random from a nationally representative sample of approximately 1,000 schools. The overall design for the study includes four major component surveys -- of students, parents, school administrators and teachers -- and a cognitive test component intended as a supplement to the student survey. In addition, the research design stipulates a base year data collection period during the spring of 1988, with follow-up surveys at two-year intervals which are intended to facilitate long-term trend analyses.

This paper is intended to: (a) identify the purpose and objectives of the School Survey component of NELS:88, (b) describe the survey administration procedures, and (c) present the results of the field test of the NELS:88 School Survey undertaken in the spring of 1987. Each of these items are addressed in the remaining sections of this paper following a brief overview of related longitudinal studies that have influenced the development and undertaking of NELS:88.

Background

This year, 1988, marks the twentieth anniversary since Congress has mandated that the U.S. Department of Education, Center for Education Statistics (CES) "... collect and disseminate statistics and other data related to education in the United States" (section 406(b) of the General Education Provisions Act, as amended by 20 U.S.C. 1221e-1). Since the passage of this mandate, educational policy-makers and researchers, at all levels, have advised CES to include in their response to this mandate the provision of data that would provide a better understanding

of the transitions made by young people from education to work, from dependence to independence, and from youth to adulthood.

A response to these data needs was initiated in 1970 with the establishment of the Longitudinal Studies Branch (LSB) of CES. The purpose of the LSB research program is to gather longitudinal data on nationally representative samples of students, which would aid in addressing such issues as the quality, equality, and diversity of educational opportunity and the effect of these factors upon individual development and educational and career outcomes. Since its creation, two major longitudinal studies have been launched and successfully undertaken. Included are: the National Longitudinal Study of the High School Class of 1972 (NLS-72), and High School and Beyond. Each of these programmatic efforts is discussed briefly below.

The National Longitudinal Study (NLS-72)

NLS-72 began in the spring of 1972 with a survey of a national probability sample of 19,001 seniors from 1,061 public, private and church-affiliated high schools. The sample was designed to be representative of the approximately three million high school seniors in more than 17,000 schools in the spring of 1972. Each sample member was asked to complete a student questionnaire and a 69-minute test battery. In addition, school administrators were asked to supply survey data on each student, as well as information about the school's programs, resources and grading system.

Five follow-ups conducted in 1973, 1974, 1976, 1979, and 1986 have been completed subsequently. At the time of the First Follow-up, an additional 4,450 students from the class of 1972 were added to the sample. Through intensive locating and tracking efforts, 83 percent of the 1972 Base Year sample and 85 percent of the expanded First Follow-up sample responded to the Fourth Follow-Up in 1979. Tracking efforts included the distribution of periodic newsletters to sample members in order to maintain their interest and cooperation and to update addresses for future contacts.

In addition to background information, the NLS-72 Base Year and Follow-up Surveys collected data on respondents' educational activities, such as schools attended, grades received, and degree of satisfaction with their educational institutions. Participants also were asked about work experiences, periods of unemployment, job satisfaction, military service, marital status, and children. Attitudinal information on self-concept, goals, participation in political activities, and ratings of their high schools are other topics for which respondents have supplied information.

High School and Beyond (HS&B)

The second major study undertaken by the CES was HS&B whose base year data collection efforts were initiated in the spring of 1980. HS&B was initiated in order to capture changes that have occurred in educational and social conditions, Federal and state programs, and needs and characteristics of students since the time of NLS-72. Thus, HS&B was designed to maintain the flow of relevant data to policy-makers at all levels who need to base their decisions on information that is reliable, relevant to the issues at hand, and current.

For the Base Year data collection, students were selected through a two-stage probability sample with schools as the first-stage units and students within schools as the second-stage units. There were 1,015 public, private and church-affiliated secondary schools in the sample and a total of 58,270 participating students. Unlike NLS-72, HS&B cohorts included both tenth graders and twelfth graders.

The base year survey included the administration of questionnaires and cognitive tests to over 30,000 sophomores and 28,000 seniors. Questionnaires focused on obtaining information on the educational and vocational choices made between the sophomore and senior years. In addition, the questionnaires covered school experiences, activities, plans, selected background characteristics, and language proficiency. By surveying sophomores again in their senior year, information was obtained on critical decisions made shortly before graduation, as well as information on high school dropouts. Unlike NLS-72, HS&B included a collection of data on the factors affecting family-formation behavior, intellectual development, and social participation.

Data were also collected from the school administrator in each participating school requesting information about school policies, programs, and student body characteristics. In addition, teachers provided comments on students in the sample. Finally, a sample of parents of sophomores and seniors was surveyed primarily for information about the financing of higher education.

Since the base year data collection in 1980, there have been three follow-ups of the HS&B cohorts, one in the spring of 1982, one in the spring of 1984, and the other in the spring of 1986. The third follow-up included the collection of financial aid record information for the 1980 high school seniors and sophomores who reported attending any postsecondary institution after

high school. For the 1980 sophomores, postsecondary transcripts were also included in this follow-up data collection.

The NELS:88 Research Design

NELS:88 seeks to gather trend data about critical transitions experienced by young people as they develop, attend school, and embark on careers. NELS:88 focuses on a sample of students enrolled in the eighth grade in the 1987-88 academic year. Similar to its predecessor studies, NELS:88 focuses on the collection of policy-relevant information related to such topics as effective schools, discipline, homework, course taking patterns, cognitive ability, dropouts, private schools, vocational education, special education, instruction for limited English speaking students, postsecondary access and choices, student financial assistance, employment stability, family formation, and graduate/professional training.

The base-year data collection period for NELS:88 began in February 1988 and will continue through June 1988. The sample of students will be administered a student questionnaire and a cognitive test battery intended to measure cognitive growth over time in reading, mathematics, science, and social studies. These data are to be supplemented by a school survey directed at the principals in schools where the participating students are enrolled, a survey of selected teachers of participating students, and a parent survey of a sample of participating students' parents. In addition, other components of the above surveys provide supplemental details concerning language minority students, gifted and talented students, and mathematics and science curriculum.

School Survey Design

The primary purpose of the School Survey is to gather general descriptive information about the educational setting or environment associated with the individual students who have been selected for participation in NELS:88. Information obtained through the survey is to be linked to each sampled student and is intended to meet the following objectives: (a) to assist in analyzing the learning environment and experiences of eighth grade students, and (b) to assist in distinguishing among different patterns of eighth grade schools and the effects of such patterns on the transitions of students to the tenth grade and beyond.

In keeping with the data needs targeted by NELS:88, emphasis is placed on gathering longitudinal data that would be useful in explaining future outcomes as assessed in follow-up survey efforts. Overall, the school description provided by the School Survey is intended to address the academic climate in terms of items such as enrollments and educational offerings as well as specific school policies. Thus, the following information needs were targeted for the School Survey:

- General school characteristics;
- Grading and/or testing structure used by the school;
- Program and facilities information;
- School climate;
- Parent interactions/involvement;
- Teaching staff characteristics; and
- Respondent data for follow-up.

Purpose and Content of the School Questionnaire

One of the initial tasks undertaken by project staff was the design and development of the school questionnaire. Initially, a content outline was prepared detailing possible information topics, suggesting item formats, and recommending specific items for inclusion in the questionnaires based on their use and performance in prior longitudinal studies (i.e., NLS-72 and HS&B). Following review and input by CES staff and members of a National Advisory Panel, the content outline was expanded into a draft questionnaire. After additional reviews and revisions as well as the development of supporting documentation, the school questionnaire was approved by FEDAC/OMB. Clearance was granted in December 1986 allowing the questionnaire to be formatted and printed in preparation for its administration during the Field Test.

The school questionnaire is designed to be responded to primarily by the school principal who is asked to provide descriptive information about the school's student population, teaching staff, policies, program offerings, and overall educational climate. In some cases, questionnaire items request factual data which may be provided by an individual who extracts such information from school files under the guidance of the school principal. Directions accompanying the questionnaire do indicate that portions of the questionnaire request factual data that may not be readily available from school records. In such cases, informed estimates are acceptable

responses to such questions. Finally, standard assurances of confidentiality and anonymity are provided.

The school questionnaire utilized in the field test contained eight parts. Each part is identified and described below.

- Part 1 - School Characteristics requests general information about the characteristics of the participating school in order to confirm its classification in the NELS:88 sample.
- Part 2 - Student Characteristics seeks information about the general characteristics of the school's student population.
- Part 3 - Teaching Staff Characteristics identifies general information about the professional teaching staff, related to group characteristics and operational organization within the school.
- Part 4 - School Policies and Practices requests information about the operational policies and practices of the school.
- Part 5 - Grading and/or Testing Structure seeks information about the grading and testing practices of the school.
- Part 6 - School Programs identifies information about the general academic and co-curricular programs that are available to eighth grade students enrolled in the school.
- Part 7 - School Climate identifies the overall morale and attitude of the students and professional staff regarding the school environment as perceived by the school principal.
- Part 8 - School-Parent Interactions collects information regarding the school's practices designed to involve parents in the educational process.

Respondent Sample for the School Questionnaire

Identification of the sample of respondents for the school questionnaire was quite straightforward, following the identification of schools involved in the Field Test. Each principal of the participating schools in the NELS:88 Field Test was requested to respond to the school questionnaire. In total, 51 school questionnaires were administered, and 46 completed questionnaires were returned, resulting in a 90 percent response rate. Of the remaining questionnaires, three principals (6%) refused to return the questionnaire, and two principals (4%) were categorized as non-respondents. Additional details, related to the school questionnaire response rates, are presented in a later section in this paper.

Data Collection Procedures

Following the preparation and printing of the approved school questionnaire and survey materials, as well as the identification of the sample of respondents, data collection procedures were initiated. Data collection includes all activities associated with obtaining completed questionnaires. These activities include: questionnaire mailout, receipt control, nonresponse follow-up, and data retrieval follow-up. Each activity is described in detail in the following sections.

Mailout. Distribution of the school and teacher questionnaires was accomplished in tandem by preparing a unique "school package" for each participating Field Test school. Each package contained the required number of teacher and school questionnaires, related cover letters, and instructional materials for the return of the school package.

The planned distribution method (method 1) involved transmitting a "school package" to the assigned school coordinator in order that the package would arrive at least two weeks prior to the scheduled survey day. This allowed time for the questionnaires to be distributed and completed before survey day. Thus, completed questionnaires could be collected by the team leader on survey day. During the Field Test, 23 schools were sent packages by this method.

For the remaining 28 schools, the materials required to prepare a school package for mailout were not received two weeks before survey day. For example, additional time may have been required to obtain school cooperation or a student roster that was needed for student sampling. Therefore, an alternative data collection method (method 2) was used with these schools. This second method involved sending a questionnaire package to the team leader before survey day. The team leader then gave the package to the school coordinator on survey day. The school coordinator was responsible for distributing and collecting questionnaires, and returning the completed forms.

Receipt Control. Records of all data collection activities were maintained in a computer-based receipt control system. This system was designed to maintain a database which included two files: a school file containing school-level information such as scheduled survey date and mailout date; and the questionnaire file containing information for each questionnaire, such as date received and status code.

When a "package" of questionnaires was returned, the contents were reviewed and status codes and dates were assigned and logged in the receipt control system. The questionnaires were then filed for further processing. The final status of questionnaire receipt by control of school (i.e., public, Catholic, and other private) appears in Table 1. In general, no trends in "refusals" or "nonresponse" were noted for the school questionnaire.

Table 1. School questionnaire status by control of school

School Questionnaire Status	Total	Control of School		
		Public	Catholic	Other Private
Nonresponse	2	2	-	-
Questionnaire received	46	34	5	7
Principal refused	3	2	1	-
Total	51	38	6	7

Nonresponse Follow-up. The three types of follow-up conducted for nonrespondent school questionnaires were: telephone calls to the coordinator when no package was received from a school, telephone calls to the coordinator when an incomplete package was received, and telephone calls to sampled respondents to collect questionnaire information by phone. Each of these types of follow-up is discussed in detail in the following sections.

After a questionnaire package was mailed, the expected return date was determined based on the mailout method used. An expected return date of one week after survey day was used for schools sent questionnaires by mailout method 1. For schools sent questionnaires by mailout method 2, the expected return date was three weeks after survey day.

Of the 51 schools in the Field Test, 38 returned packages on or before the expected return date. Seven schools returned packages within one week of the expected return date. For the remaining six schools, all of which used mailout method 2, prompting telephone calls were made to the coordinators. Five of the six schools responded after one telephone contact. The remaining school required two telephone contacts before responding.

The second type of nonresponse follow-up involved telephone calls to coordinators for incomplete packages. Sixteen incomplete packages were received during the Field Test. If

questionnaires were not received by the target date specified on the transmittal form, a follow-up telephone call was made to the school. Of the 16 incomplete packages, 11 required telephone calls to the coordinator.

For those questionnaires not received after follow-up telephone calls to the coordinator, the sampled respondents were contacted to collect questionnaire data by telephone. Five school questionnaires required this type of nonresponse follow-up. These contacts with respondents resulted in two refusals and three that would not complete questionnaires by phone but promised to mail them in. None of these forms was received, however.

Data Retrieval Follow-up. If a questionnaire contained a key question error or a data consistency error that related to a key question, a data retrieval telephone call was made to the respondent. When this occurred, all errors or missing data on the questionnaire were resolved. Table 2 shows the number of data retrieval follow-up cases by the control of the school (i.e., public, Catholic, and other private). No trends were noted in the degree of data retrieval follow-up by the control status of the Field Test school.

Table 2. Data Retrieval Followup Status by School Control

School questionnaire data retrieval status	Total	Control of School		
		Public	Catholic	Other Private
Data retrieval followup required	27	23	2	2
No data retrieval followup required	24	15	4	5
Total	51	38	6	7

All data retrieval follow-up telephone calls were conducted by telephone interviewers who were provided interactive training and a procedural manual. The manual included general instructions, administrative procedures, and instructions for handling specific data retrieval items.

Data Processing Completed Questionnaires

Data preparation and processing included all activities associated with converting information from completed questionnaires to clean data files. These activities included manual editing and coding, data entry, and machine editing, which are discussed in the following sections.

Manual Editing and Coding. This operation included manual editing and coding of the questionnaires. The purposes of the editing and coding operation were:

- To identify questionnaires needing data retrieval and prepare them for telephoning;
- To identify problem situations requiring coding decisions;
- To review completed data retrieval cases, recoding as necessary; and
- To prepare all questionnaires for data entry.

Data Entry. Coded questionnaires were transmitted in batches for data entry. Questionnaires were keyed to disk following specifications programmed specifically for the questionnaire. These specifications included all skip patterns and zero-filling of numeric fields. Each questionnaire batch was 100 percent key verified. After verification, each batch file was submitted for machine editing.

Machine Editing. The purpose of the machine edit operation was to identify and correct errors on the questionnaire data files. The types of errors corrected included respondent errors, coding errors, and data entry errors. All checks made during manual editing were also made during machine editing. Thus, any errors not identified manually were identified by computer. The machine edit specifications included the following types of checks: (a) alpha versus numeric checks, (b) range checks, (c) skip pattern checks, (d) data consistency checks, and (e) addition checks.

Analysis of Questionnaire Item Response and Nonresponse

As noted in a preceding section, the overall response rates achieved for the School Survey was 90 percent. Although this rate was quite acceptable, several suggestions and/or modifications were identified that would improve the quality of the information acquired through the survey instrument.

Overall, data collection and retrieval procedures related to the school questionnaire were judged to be successful. In total, 46 of the 51 questionnaires distributed were completed and returned. Of the remaining five questionnaires, three were considered refusals and two were categorized as nonresponses.

During the Field Test data collection stage, the return of "school packages" was monitored as was their completeness in terms of containing the expected number of school and teacher questionnaires. When a school package was delayed or determined to be incomplete, the school questionnaire was often the cause of the delay or incomplete status.

The delay in the return of the school questionnaire is reflective of the inordinate amount of time that it took to complete the questionnaire, as reported by school principals. As summarized from responses provided by the principals, the average number of person-hours required to complete the questionnaire was 1 hour and 36 minutes, with a range of 20 minutes to 5 hours. This time requirement certainly exceeded project staff projections and suggested that the overall length of the questionnaire be shortened.

The percentage of response to all items exceeded 90 percent at the conclusion of all follow-up efforts. Only a small number of items were responded to by principals as "don't know," or were coded by project staff as "not ascertained" in cases where non-key items were left blank by respondents. No items were coded as "refusals." It should be noted that these reported percentages are based on the number of expected responses for an item which varies due to item skip patterns.

As a result of coding and editing efforts as well as telephone data retrieval activities, several problem items were noted. Specific recommendations were suggested regarding the improvement of these items. Suggestions included: deleting response options, reformatting question stems and/or response options, or the deletion of an item.

Linkage of School Data to Student Files

One of the key objectives to be met by the School Survey is the linkage of descriptive information about schools to individual sampled students. The linkage of information about the sampled students' school environment is straightforward. That is, each sampled student's record is matched or linked to a single school record/questionnaire. Of the 1,556 eighth grade students,

descriptive school information was matched to a total of 1,396 individual students or 89.7 percent of the student sample. (Note: The total number of sampled eighth grade students varies with respect to the total number of eighth grade students presented in related reports or papers due to the varying number of eighth grade students sampled per school which was not adjusted for during the Field Test.) The 160 students (10.3 percent) who do not have matched school information are a result of the five school questionnaires coded as refusals or nonresponses.

In summary, the matching of school data to individual students was achieved for approximately 90 percent of the eighth grade student sample. Thus, no alterations were proposed to the School Survey design for the base year effort.

Summary of Recommendations

Overall, the Field Test of the School Survey was judged a success. Response rates achieved regarding the administration of the school questionnaire exceeded 90 percent. In addition, item response rates were more than sufficient, while respondents infrequently "refused" to respond to items or responded "Don't Know."

Although all Field Test activities were successfully conducted, several modifications to procedures, materials, and questionnaires were recommended. This final section, summarizes the recommendations that have been implemented in the undertaking of the NELS:88 Base Year study. Recommendations are presented and highlighted in the following three broad categories: pre-survey activities, data collection activities, and instrumentation.

Pre-survey activities. Prior to the distribution of questionnaires to respondents, several sources of information were required, and links between these sources had to be maintained in order to meet the overall study design goal of linking school information to individual sampled students. Some timing concerns were found in the acquisition and merging of data files and materials necessary for the administration of the school questionnaire resulting in the use of two mailing methods.

The alternative mailing plan (method 2) proved to be workable for the Field Test because of the small number of schools participating in the Field Test. The alternative mailing plan is being relied upon as little as possible for the base year study. When necessary, survey packages are express mailed to school coordinators to aid in their arrival prior to survey day. In

cases where this is not possible, the survey package is mailed to the school coordinator who is then responsible for the distribution, collection and return of questionnaires.

Data collection activities. Once questionnaire packages were transmitted, remaining survey activities were completed with very few problems. The added burden of tracking questionnaires through two different distribution methods is basically a logistical concern. Additional nonresponse efforts are required for missing and/or incomplete questionnaire packages returned by school coordinators (using the alternative distribution approach). The added logistical concerns and nonresponse follow-up efforts are hoped to be reduced during the base year effort by modifying timing of the collection of pre-survey information, as noted above.

Instrumentation. Directions for completing the questionnaire, individual wording of item stems, and item response scales were well understood by respondents and were effective in acquiring the targeted information. As reported, questionnaire and item nonresponse rates for the school questionnaire were quite low. However, the person-hours required by respondents to complete the questionnaire exceeded project staff projections. This finding made it necessary to reduce the length of the questionnaire to remain within the original response burden target. In addition, several of the specific modifications to problematic items were incorporated. Thus, the base year school questionnaire includes a total of 51 questionnaire items rather than 65, and are grouped into the following seven sections: school characteristics, student characteristics, teaching staff characteristics, school policies and practices, grading and/or testing structure, school programs and school climate.